DOCUMENT RESUME

ED 270 758 CS 209 791

AUTHOR Penrose, Ann
TITLE Individual Differences in Composing: Exploring Consequences for Learning through Writing.
PUB DATE Mar 86
NOTE 10p.; Paper presented at the Annual Meeting of the Conference on College Composition and Communication (37th, New Orleans, LA, March 13-15, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cognitive Processes; *Content Area Writing; Higher Education; Learning Processes; Research Needs; Teaching Methods; Writing (Composition); Writing Improvement; Writing Instruction; *Writing Processes; *Writing Research; Writing Skills
IDENTIFIERS *Writing Across the Curriculum

ABSTRACT

Noting that the claim that writing is a way to learn underlies most writing across the curriculum programs, this paper provides an overview of recent research results supporting the claim and emphasizes the need for more research in this area. The paper first identifies three dominant interpretations in the writing across the curriculum literature: (1) affective dimension, (2) social dimension, and (3) cognitive dimension, and cites research that explains each of these dimensions. The paper states that two qualifications should be added to the claim that writing is a way to learn, the first being dependent upon what kind of writing is discussed and the second being dependent upon the individual doing the writing. The paper then discusses studies that look at the effects of different writing tasks on learning and studies that reveal individual differences among writers. Finally, the paper concludes by stating that writing across the curriculum has generally been perceived as a pedagogical and administrative concern rather than as an area for research, a perception that may have caused the concept to suffer in terms of both public relations and personal growth. (DF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Ann Penrose
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED270758

CS209791

Ann Penrose
Carnegie-Mellon University

CCCC New Orleans 3-15-86
Panel: Evaluating Writing Across the Curriculum Programs

Individual Differences in Composing: Exploring Consequences for Learning through Writing

1.

My paper is about evaluating assumptions rather than programs. The assumption I've been examining is the fundamental claim that writing is a way to learn, a claim which underlies most of the current WAC programs. As my title suggests, I've been looking at how individual differences in the way students write affect what they learn through writing. I'll talk a little bit about some work I'm doing in this area, but my main goals are, first, to overview some recent research results that I think can help us refine our claim that writing is a way to learn, and secondly, to emphasize the need for more research in this area.

2.

The phrase "writing is a way to learn" has been used in lots of different ways --there are three dominant interpretations in the writing across the curriculum literature:

1. Affective dimension

2. Social dimension

3. Cognitive dimension

James Britton (1981), Toby Fulwiler & Art Young (1982) and other writing theorists have argued convincingly that writing is a way to foster emotional growth in students, the *affective dimension*. They suggest that we can help students discover their own voices through writing, and that it provides them the opportunity to make knowledge their own by connecting it to their own personal knowledge base. I think we have quite a strong theoretical case for writing as a way to learn in this sense of self-discovery and the development of personal knowledge.

Similarly, writing across the curriculum theorists have made a strong case for the *social dimension* of writing as a way to learn. Elaine Maimon (et al. 1981) states that "writing in every discipline is a form of social behavior in that discipline" (p.xii). Many others have also talked of writing as a means by which students enter the conversation of a discipline. Not only does writing help students find their own voice, but it helps them recognize that their voice is important.

I think we're on real solid ground when we claim that writing facilitates these first two types of learning --that is, that it can be a means for fostering personal & professional growth. When it comes to the cognitive dimension, however, we simply don't know as much. We know something about the personal and political consequences of giving students opportunities to write, but we don't know much about what this means in practical terms: What are the cognitive consequences of giving students these opportunities? What can writing help students learn?

Janet Emig offered some general responses to these questions in her 1977 essay "Writing as a Mode of Learning," but empirical studies of writing and learning have only recently begun to appear. We need to know alot more about the interaction between writing & learning if we want to design assignments and instructional approaches that will help students use writing to best advantage.

3.

The research that has been done suggests a couple of qualifications to our broad claim that writing is a way to learn.

Assumption: Writing is a way to learn.

Qualification #1: Depends on what we mean by "writing."

The first qualification is that it depends on what kind of writing we're talking about. Different types of writing tasks foster different types of learning, as we might expect. George Newell (1984) and Judith Langer (1986a) have both compared learning gains across different types of writing activities. They looked at note-taking, answering study questions, and writing analytic essays, and found that these writing activities did indeed lead to different kinds of learning. Both conclude that study questions are useful for helping students learn isolated items of information, while analytic essay writing encourages more integration of the material.

Of course, different essay writing tasks will require different amounts of integration. In another study, Langer (1986b) used think-aloud protocols to look at the cognitive operations involved in writing different types of essays. She found that summary writing led to rather generalized effects on learning but involved only superficial manipulation of the material. Analytic writing tasks, on the other hand, focus the writer on a smaller body of information, but her students evidenced better retention

of that material. Langer points out that the effects of analytic writing are limited and therefore potentially limiting. The process of writing an essay does not necessarily encourage a more careful review of all the material at hand, as we might have hoped.

One conclusion to draw from these studies is that the type of writing assignment we choose to give our students will determine the type of learning they engage in. This is important to keep in mind as we design assignments and as we encourage other teachers to use writing in their courses.

But the teacher's choice of task is not the only variable involved here. How individual students go about completing these tasks is just as critical. I think this is the second qualification we need to make to our assumption that writing is a way to learn:

Qualification #2: Depends on who's doing the writing.

Though the studies just mentioned all found evidence of learning gains for particular types of writing tasks, within each task there was quite a bit of variability. On the average, students learned more through engaging in extended writing activities, *but individual students benefitted to different degrees*. Some learned quite a bit, others not much at all.

This shouldn't be particularly surprising. There's plenty of research evidence to support the assumption of individual differences among writers --not just between novices & experts, but within these groups as well. An important characteristic of writing seems to be that it offers an occasion for integrating. It seems reasonable to think that the degree to which writing is an integrative activity might vary not only from task to task, but also from writer to writer. Recent research on composing provides evidence of this type of variation.

Researchers investigating a variety of writing skills have reported that weak or inexperienced writers tend to work "locally," that is, they plan or revise one or two sentences at a time, proceeding linearly through a text and rarely looking at larger units or at the connections between units. On the other hand, better writers take a more global or integrative approach to these tasks, developing and using hierarchical networks of goals and content units. For example, in a summarizing task, Brown, Day & Jones (1983) found that poorer writers tended to proceed sequentially through the text, deciding for each sentence whether to copy it into the summary or to delete it. Better writers, on the other hand, abstracted the main ideas from the text and restated them in their own words. Flower & Hayes (1981)

have observed similar local-global differences in their planning studies; Faigley & Witte (1981), Nancy Sommers (1980), and others also observed variations along this dimension in studying revision. We'd expect that these different ways of approaching writing might affect the degree of integration that students achieve in their understanding of the topic.

In addition, most academic writing tasks involve reading, another set of skills which students have mastered to varying degrees. We know from reading research and from our experiences in the classroom that students differ in their ability to recognize important points and to make connections and inferences. Nancy Spivey (1983) studied the effect of reading ability on the quality of students' written products. She found that better readers were more sensitive to the importance level of various units of content and therefore wrote essays that included more of the important information from the reading than the poorer readers did.

In short, we have lots of research to demonstrate that students have varying amounts and types of knowledge and skill to bring to bear on a given writing task and we know that these differences affect the quality of their written work.

4.

I'm interested in how these differences affect the quality of their learning as well. I've just been overviewing two areas of research: studies which look at the effects of different writing tasks on learning, and studies which reveal individual differences among writers. We don't have too much information about how these two areas connect. That is, we don't know very much about how writing affects learning for particular types of students.

Kathleen Copeland (1984) has looked at the effect of writing on the learning of good and poor writers. Like Newell & Langer, she found that all her subjects learned more through writing an essay than through answering multiple-choice questions or simply rereading. But the good and poor writers demonstrated different kinds of learning. The two groups did about the same when they were tested for factual recall, but the good writers were much better than the poorer writers when asked to apply information from the reading to new situations.

I found similar results when I looked for correlations between students' writing strategies and their comprehension. In a pilot study, I gave students the task of writing a report on a short

reading passage[1] and had them give think-aloud protocols as they worked. The protocols revealed two dominant approaches to this task (Figure 1). Some students--Beth is the example in Figure 1--essentially paraphrased the text, translating a sentence or two at a time into their own words using simple word substitution, replacing specifics with generalizations, or deleting units of text. Others seemed to set the goal of extracting the author's main ideas and setting them in a context. John, for example, in Figure 1, looked for a main idea in each paragraph, composed a summary sentence to focus his essay and guide the selection of material, and thought about implications of the reading as he composed introductory and concluding paragraphs.

When I tested these students for their comprehension of the reading, they did about the same on questions requiring only the recall of isolated facts, but they differed in their ability to draw inferences from the text material or to connect bits of information from different places in the text (see scores in Figure 1). Though I gave them the same task instructions, these students approached the task in very different ways and as a result learned different things.

Beth works linearly through the text, attending to small chunks of information at a time, very text-bound. She doesn't need to step back or to understand the larger points of the text, the macrostructure, in order to write her paraphrase.

John, on the other hand, takes a more global view, sees the text as containing a hierarchy of points and sub-points. He has to understand these points & the relationships between them in order to write the kind of explanatory report he seems to have in mind. His awareness of audience and familiarity with rhetorical conventions help him to think about the material in a broader context.

I like using Beth & John as examples because both of them are good students--but they're really doing different tasks here. It's clear that John is the more sophisticated writer, though both were considered good writers by their writing teacher. What I'm most interested in though are the *consequences* of the different approaches that Beth & John took. As you might expect, John's paper was more informative and more interesting than Beth's, but there's more at stake here than the quality of their written products. What is striking, I think, is the quality of learning that writing facilitated for each of these students.

---

1. The passage was about hurricanes --what we know about them and how that knowledge was discovered.

Two approaches to a writing task

Beth

Writing Strategies Substitute, Generalize, Delete

Learning Outcomes Facts **50%** Inferences **25%**

John

Writing Strategies Extract ideas, Formulate summary statement, Discuss implications

Learning Outcomes Facts **67%** Inferences **75%**

FIGURE 1

Percentage figures indicate percent correct on comprehension items in each category.

These findings suggest that using writing in the classroom will not guarantee enhanced learning for all students in all situations --what students learn through writing will depend on what they do when they write.

5.

In the last decade or so, the writing across the curriculum movement and the process research movement have grown up side by side, but there has been little interchange between the two. We've drawn on process research for techniques: for example, we now have students do multiple drafts and we encourage them to use informal writing as a means for exploring their topic. But one of the main things that process research has demonstrated is the wide range of abilities and inclinations among our student writers, and this is something we have not taken into account in our planning for WAC. If we want students to use writing as a means for learning, then we will need to make provisions for those students who don't or can't use writing very well or very easily. Maybe we'll need to give extra guidance or training; maybe some students would benefit more from other types of learning activities. We'll need alot more information to help us make these decisions.

To conclude, writing across the curriculum has generally been perceived as a pedagogical and administrative concern, rather than an area for research, and I think the movement has suffered from this distinction, both in terms of public relations and in terms of our own growth. I believe wholeheartedly in the value of using writing across the disciplines; but I want to know more about how it can help me and my students and my colleagues in other fields. I want to know how and when I can use it to best advantage and what kinds of support I need to provide in order to help all my students use it effectively. I think we need to focus our efforts on these types of research questions. We should and can learn more about writing & learning.

NOTE: The pilot results discussed in Section 4 are further explored in a current study which looks at both writing and studying strategies: *Individual Differences in Composing: Effects on Learning through Writing.* (Dissertation, Carnegie-Mellon University, scheduled for completion December 1986.)

References

Britton, J. (1981). Language and learning across the curriculum. Eforum, 2, 55-56, 93-94.

Britton, J., Burgess, T., Martin, N., McLeod, A., Rosen, H. (1975). *The Development of Writing Abilities (11-18)*. London: Macmillam Education Ltd.

Brown, A.L., Day, J.D. & Jones, R.S. (1983). The development of plans for summarizing texts. *Child Development, 54*, 968-979.

Copeland, K.A. (1984). *The Effect of Writing upon Good and Poor Writers' Learning from Prose*. Unpublished doctoral dissertation, The University of Texas at Austin.

Emig, J. (1977). Writing as a mode of learning. CCC, 28, 122-128.

Faigley, L. and Witte, S. (1981). Analyzing revision. *College Composition and Communication, 32*[4], 400-414.

Flower, L. and Hayes, J.R. (1981). Plans that guide the composing process. In C.H. Frederiksen and J.F. Dominic, (Eds.) *Writing: The Nature, Development, and Teaching of Written Communication, Volume 2*. Hillsdale, New Jersey: Lawrence Erlbaum Assoc.

Fulwiler, T. and Young, A. (1982). *Language Connections: Writing and Reading across the Curriculum*. Urbana, Illinois: National Council of Teachers of English.

Hayes, J.R., Flower, L., Schriver, K.A., Stratman, J., and Carey, L. (In press). Cognitive processes in revision. In S. Rosenberg (Ed.) *Advances in Applied Psycholinguistics, Volume II: Reading, Writing, and Language Processing*. Cambridge, England: Cambridge University Press.

Maimon, E.P. (1983). Writing across the curriculum: Rediscovering the essential. *The English Record*, Third Quarter 1983, 2-3.

Maimon, E.P., Belcher, G.L., Hearn, G.W., Nodine, B.F., O'Connor, F.W. (1981). *Writing in the Arts and Sciences*. Boston:Little, Brown and Company.

Langer, J.A. (1986). Learning through writing: Study skills in the content areas. *Journal of Reading, 29*[5], 400-406.

Langer, J.A. (1986). Writing to study and learn. Stanford University.

Murray, D. (1980). Writing as process: How writing finds its own meaning. In Donovan, T.R. and B.W.McClelland (Eds.), Eight Approaches to Teaching Composition, Urbana, Ill.:NCTE.

Newell, G.E. (1984). Learning from writing in two content areas: A case study/protocol analysis. *Research in the Teaching of English, 18*[3], 265-187.

Penrose, A. (1985). Learning a lot or a little: An examination of writing as a way to learn. Paper presented at the Penn State Conference on Rhetoric & Composition, July 1985.

Sommers, N. (1980). Revision strategies of student writers and experienced adult writers. *College Composition and Communication, 31*[4], 378-88.

Spivey, N. (1983). *Discourse synthesis: Constructing texts in Reading and Writing*. Austin: University of Texas Press.